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Farming Operations and Households in Farming Areas

A Closer Look

Robert A. Hoppe

FCRS
Farm Costs & Returns Survey

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Abstract

Although the number of counties economically dependent on farming has declined over the years, agriculture has not disappeared from most counties that are no longer farming-dependent. Farming is still significant in many of those counties. This report presents three groups of counties based on each county's share of local earnings from farming and the size of its local farm sector. Understanding the similarities and differences among the three county groups should be useful when devising measures to help farm operator households and their communities.

Keywords: Farmers, farm owners, farm operators, farm families, farm households, farming-dependent counties, rural development, off-farm income, farm income.

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Summary

Fewer and fewer counties depend heavily on farming for their income. But agriculture has not disappeared from the great majority of counties that are no longer farming-dependent. In many counties, farming is still significant, although it does not now provide a large share of local income.

This report examines farm businesses and farm operator households in three groups of counties. The county groupings are based on each county's share of earnings from farming and the size of its local farm economy. The county groups are:

- Farming-dependent counties, where at least 20 percent of local earnings came from farming;
- Major farming (MF) counties, where less than 20 percent of local earnings came from farming, but farms ranked in the top fifth of U.S. counties in total farm earnings received; and
- Residual counties, the remainder of U.S. counties.

Studying the characteristics of these county groups and the characteristics of farm operator households in the groups indicates four major implications:

- **Farm operator households are likely to have an interest in the nonfarm economy**, because they depend heavily on off-farm income, regardless of county group.
- **Farm-related economic development strategies may be most relevant in farming-dependent counties**. For other areas, the effects of the local economy on farming may be more important.
- **Farm commodity programs may have limited potential to affect farm households** when most operator household income comes from off-farm sources.
- **Strengthening local nonfarm economies through development programs may be an alternative to using commodity programs** to increase farm operator household income.

Farming-dependent counties. In 1950, 2,016 counties were farming-dependent, and by 1986, some 521 remained, the result of greater farm productivity, farm consolidation, falling farm employment, and growing nonfarm employment. Farmer self-employment and farmworkers accounted for more than a fifth of the jobs in farming-dependent counties.

More than 60 percent of the farms in this county group were located in the Midwest. About a third specialized in cash grains, much more than in the other county groups. Farms tended to be large, and operators worked, on average, more than 2,000 hours per year on their farms. Yet, farm operator households, on average, depended on off-farm sources for about 60 percent of their income in 1990.

Major farming counties. Farms in this county group were more likely to specialize in dairy or high-valued crops. About 40 percent of the farms in the 434 major farming (MF) counties were located in the Midwest. About half the farms in the MF group were in metro areas, and operator households in metro MF areas depended more on off-farm income than operators in nonmetro MF counties. Nevertheless, nonmetro MF operator households still received about two-thirds of their income from off-farm sources.

Residual counties. Most U.S. farm firms were located in neither farming-dependent nor MF counties, but in residual counties. Farms were most likely to specialize in livestock in the residual counties. About half of the farms in this county group were in the South. Part-time farming seemed to be the rule in residual counties. Average operator household income in residual counties was lower than in the other groups, partly due to low farm income. Farm operator households in this group also relied on off-farm sources for 90 percent of their income.

Farming Operations and Households in Farming Areas: A Closer Look

Robert A. Hoppe

Introduction

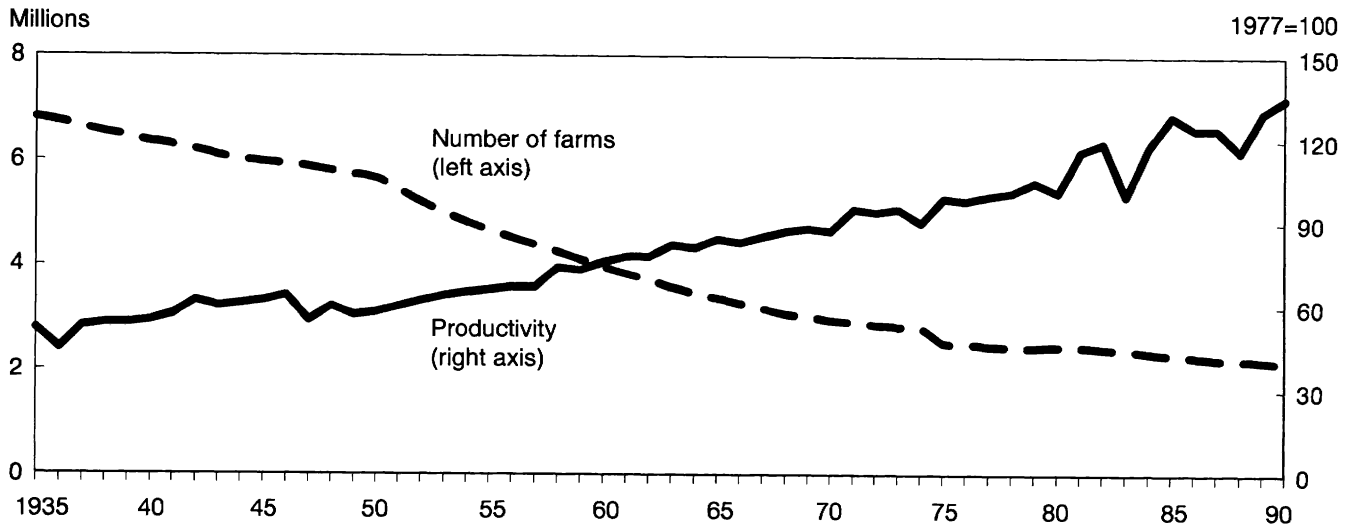
In the late 1930's, two important trends began to affect the future of farm operator households and the areas where they lived. First, starting about 1937, farm productivity began to increase steadily (Cochrane, 1979, pp. 326-328; Johnson, 1990, p. 26; U.S. Dept. Agr., 1992)[1] (fig. 1). Second, nonagricultural employment began to grow again after the Great Depression, often in the same communities where farmers lived (fig. 2).

Growing farm productivity led to farm consolidation, declining farm numbers (fig. 1), and excess capacity in agriculture (Stam and others, 1991, p. 34). As a consequence, employment in farming also declined (fig. 2). Farmers and farm laborers left farming, encouraged by nonfarm wages that were higher than what they could earn farming. As a result, the number of people who depend directly on farming for income declined. By 1990, only 2.7 percent of U.S. employment was in production agriculture, compared with 12.2 percent in 1950 (U.S. Off. of Pres., 1992, p. 332) and 24 percent in 1935 (U.S. Dept. Comm., Bur. of Cen., 1975, p. 126).

Not surprisingly, the number of areas economically dependent on farming also declined. According to the Economic Research Service (ERS), 2,016 counties were farming-dependent in 1950 (fig. 3). By 1986, only 521 farming-dependent counties remained. To be classified as farming-dependent by ERS, a county must have received at least 20 percent of its earned

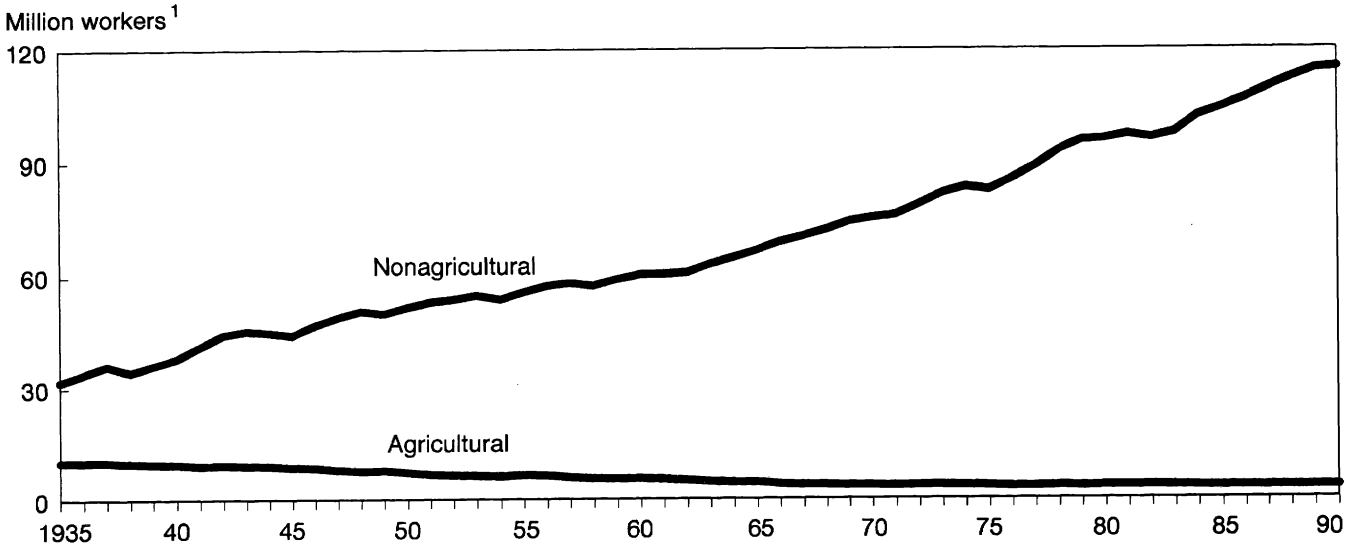
[1] Names in parentheses refer to sources listed in the References at the end of the report.

Figure 1
Farm productivity[1] and number of farms, 1935-90



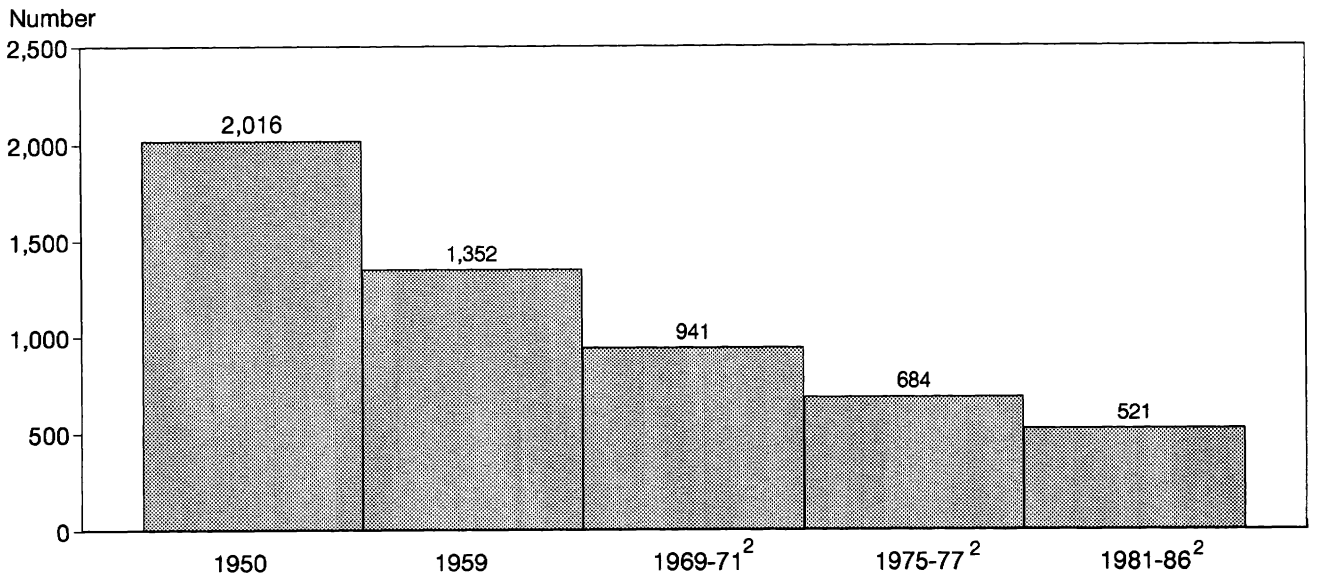
Note: The definition of farms changes periodically. The last time was between 1974 and 1975 (Stam and others, 1991).
[1]Output per unit of total inputs.
Source: Johnson, 1990; U.S. Dept. Agr., 1962, 1991, 1992.

Figure 2
Agricultural and nonagricultural employment, 1935-90



[1] Persons at least 14 years old prior to 1947; Persons at least 16 years old in other years.
Source: U.S. Dept. of Comm., 1975; U.S. Off. of Pres., 1992.

Figure 3
Number of farming-dependent counties[1]



[1] Defined as having at least 20 percent of their earnings from farming.
[2] Calculated over multiple years to minimize the effects of adverse weather or markets.
Source: Hoppe, 1981a; Hady and Ross, 1990.

income from farming. Earned income, also called earnings, comes from work performed for others (a wage or salary job) or for oneself (self-employment).

Agriculture did not disappear from the great majority of counties that are no longer farming-dependent. In many counties, farming is still significant, although it does not now provide a large share of local earnings. Furthermore, many counties receiving less than 20 percent of their earned income from farming are important to U.S. agriculture because they continue to produce a major portion of the Nation's total farm output. In this report, these are labeled "major farming" (MF) counties. MF counties are defined in greater detail in a later section. Most farms, however, are located in a residual group of counties (neither farming-dependent nor MF).

This report examines the characteristics of farm businesses and farm operator households in the three groups of counties: farming-dependent, MF, and residual. Farms and farm operator household characteristics vary among the three groups of counties. For example, farms tend to be larger in the farming-dependent and MF groups, while farm operator households in the residual group rely most heavily on off-farm income. Understanding differences such as these among the three county groups adds insight into ways to improve operator households' well-being. Different approaches may be appropriate in different areas.

This report also examines population concentrations, economic structure, and economic performance of the three groups of counties. These characteristics are relevant because they affect farm businesses and farm operator households. For example, low unemployment and rapid growth of nonfarm jobs may make it easier for members of farm operator households to find off-farm employment. Population concentrations also affect farm operations. Farms in more densely settled areas tend to have higher per-acre farmland values and to produce more high-value products (Ahearn and Banker, 1988).

The report begins with a discussion of the data used, followed by a detailed definition of the county groups examined. Distribution of farms and production among the groups is also examined. Next, a detailed description of each of the three groups is presented.

At the close of the report, connections between farm operator households and the local economy are discussed. Farm operator households affect the local economy when they make decisions about purchasing inputs and selling outputs. This is the connection from farm operator households to the local economy. Another connection--from the local economy to the farm operator household--is also important because of the off-farm income the local economy provides to operator households. This second connection is important regardless of county group.

Perceptions of agriculture are influenced by the past, before increased productivity, farm consolidation, and the growth of nonfarm jobs. Local communities then depended heavily on farming, and farm households depended heavily on their farms. A more current picture of farming and local economies is needed.

This report updates earlier ERS studies on farms and farm operator households in farming-dependent and other counties. It is the first examination of the MF county group since 1981 (Hoppe, 1981a and 1981b). For earlier reports on farming-dependent counties, see Bentley (1990), Bender and others (1985), or Hoppe (1981a and 1981b). For an earlier report on farm households in farming-dependent counties, see Ahearn and others (1988).

Data

The 1990 Farm Costs and Returns Survey (FCRS) is used to examine the characteristics of farm businesses and farm operator households. For ease in presentation, "farm" is used interchangeably with "farm business," "farm firm," and "farm operation" in this report. Farm operator households are referred to as "farm operator households," or "operator households," not as "farms."

Several county-level data sources are used to examine local economic and social characteristics in the three county groups. The county-level data provide background information about the areas where farm operator households live.

Farm Business and Household Data

The FCRS is an annual sample survey produced cooperatively by ERS and the National Agricultural Statistics Service (NASS) (Ahearn and others, 1993, p. 5-6). The useable sample is approximately 12,000 farms each year. The survey collects detailed financial data on farm businesses and basic characteristics of the farm operator and household. Compared with other sources of farm business and operator household data, the FCRS has the advantages of producing timely, detailed data where the individual farm firm or household is the unit of observation.

The number of farm operators and farm operator households is about 1 percent lower than the number of farm businesses in this report. Farms not organized as a sole proprietorship, partnership, or family corporation are excluded from the farm operator household files. The operator household concept is not relevant for the small number of farm businesses not closely held by the operator and the operator's household (Ahearn, 1992, pp. 5-6).

The 1990 FCRS undercounts farms by about 350,000-400,000, compared with the official USDA count of 2.1 million (Ahearn and others, 1993, p. 5). Many of the undercounted farms are small, with gross sales of less than $10,000. The USDA has undertaken steps to eliminate the undercount in subsequent years.

The FCRS is not designed to provide reliable data at the county level. Examining the surveyed farm businesses and households located in the three groups of counties, however, can determine the characteristics of farm businesses and farm households in each county type. This study excludes Alaska and Hawaii, because neither the FCRS nor the ERS farming-dependent classification included those States.

County-Level Economic and Social Data

The Local Areas Personal Income Series produced by the Bureau of Economic Analysis (BEA) is frequently used to follow income trends in local areas. The BEA provides annual estimates of income from earnings, transfer payments, and property for each county (U.S. Dept. Comm., Bur. of Econ. Anal., 1991). Earnings data by industry are also provided each year. BEA data were used to identify the farming-dependent counties. Unfortunately, some of the detailed data are suppressed at the county level to avoid disclosing information about individual firms.

Therefore, detailed employment data from the County Business Patterns (CBP) series, produced by the Census Bureau, are used to examine the structure of the economy in the three county groups. The Census Bureau suppresses items in individual counties to prevent disclosure. In addition, CBP data exclude counts of some groups, such as the self-employed. Claritas/National Planning Data Corporation (NPDC) and ERS, however, make estimates for the items suppressed or omitted by the Census Bureau.

CBP data are much more detailed than the BEA data. For example, information is provided about the milling industry by CBP, rather than just food processing in general as in the BEA data. This level of data allows sorting employment into two major categories, (1) farm-related and (2) other, not farm-related, to get a better idea of the local impact of farming (Majchrowicz and Salsgiver, 1993, p. 8).

Because of the estimating procedures used by Claritas/NPDC and ERS, the augmented CBP data may not be accurate in each county. Errors tend to cancel each other out, however, when individual county estimates are added up to make estimates for large groups of counties, such as those used in this report. For example, total employment in each of the three county groups in 1989 was only about 0.1 percent different from employment totals derived from BEA's local area employment data.

The Bureau of Labor Statistics (BLS) provides annual estimates of employment and unemployment for each county. These county-level data are useful in examining local employment and unemployment trends over time. The BLS data exclude the self-employed, such as most farm operators. The BLS data, however, do indicate changes in the availability of supplemental jobs for farm operators and their household members. Finally, data from

the 1990 Census of Population are used to examine population characteristics of the three county groups.

Significance Testing

Most differences in FCRS-based estimates discussed in the text are significant at the 95-percent level. Differences discussed in the text that are significant only at the 90-percent level are marked by [90%]. According to ERS guidelines for use of the survey data, any estimate with a standard error greater than 25 percent of the estimate must be identified. One estimate has a standard error that high and is identified in the tables.

No significance tests were performed for the county-level data. Significance tests were not necessary because these data are largely based on administrative records and a complete census of the population rather than on sample surveys.

Years Covered

When several data sources are used, presenting information about different characteristics for the same year may not be possible. For example, 1990 data are used to describe demographic and farm business characteristics, but 1989 data are used to describe economic structure. When the study began, 1990 was the most current year for which Census population and FCRS farm data were available. However, 1989 was the most current year for which CBP data were available to describe economic structure.

To provide a more thorough background, selected historical data are presented when county-level characteristics are examined. Three years are emphasized: 1979, 1982, and 1989. The period from 1979 to 1989 represents a complete business cycle from peak to peak. The period from 1979 to 1982 represents a recession, and 1982 to 1989 represents a recovery.[2] Data in a particular series for years after 1989 are shown, however, if they were available.

[2] Matching annual data to business cycles that are measured in months presents challenges. For more information, see Appendix 1.

Defining the County Groups

This report discusses farming-dependent counties as of 1986. These counties received a weighted annual average of at least 20 percent of total earnings from farming in 1981, 1982, 1984, 1985, and 1986 (Hady and Ross, 1990, p. 3).[3] The year 1983 was an unusually poor year for farm income and was dropped from the calculation. A 5-year annualized average was used to minimize the effects of annual fluctuations in weather or markets. The 1986 farming-dependent county classification was the most current one available when work on this report began.[4] ERS will publish an updated classification later in 1994.

A farm financial crisis occurred during the 1981-86 period, which reduced farm income in many counties. A count based on more current data from after the crisis might yield additional farming-dependent counties. Focusing on the 1986 farming-dependent counties, however, shows what happened in counties that remained dependent on farming, even during the extended farm financial crisis.

The importance of farming can be measured in ways other than the percentage of local earnings it provides. Farm production is substantial in absolute terms in many counties, even though farming provides a relatively small share of total earnings. Thus, a second group of counties is examined in this report. There were 434 counties that: (1) were among the top 20 percent of U.S. counties ranked by total farm earnings, but (2) received less than 20 percent of their total earnings from farming

[3] In other words:

$$\frac{\text{farm earnings in 1981+1982+1984+1985+1986}}{\text{total earnings in 1981+1982+1984+1985+1986}} \times 100\%$$

had to be at least 20 percent.

[4] Data are presented differently in this report than in the recent report describing the 1986 classification (Cook and Hady, 1993).. This report focuses on the characteristics of farms, farm operator households, populations, and economies in farming-dependent counties. In contrast, the recent 1986 classification report develops a profile of the typical farming-dependent county. Developing such a profile was not possible in the present report, because the FCRS does not provide reliable data at the county level.

during the 1981-86 period.[5] In this study, these counties are labeled "major farming" (MF) counties.

Farming may not be a large share of the local economy in MF counties, but these counties are important to U.S. agriculture. Although MF counties contained only a fourth of all U.S. farms in 1990, they had nearly a third of U.S. commercial farms, defined as farms with sales of $50,000 or more (table 1). Nearly half of the Nation's commercial farms with sales of more than $500,000 were located in the MF group. MF counties received 39 percent of U.S. gross cash farm income and produced 40 percent of the value of agricultural production (table 2).

Farming may be particularly challenging in MF counties because these farm operators must adjust to an economically dominant nonfarm sector. For example, operators in MF counties may face competition from the nonfarm sector for land and labor. And, zoning laws may restrict how farm operations are run. On the other hand, farming in these counties offers opportunities for off-farm employment that may buffer unfavorable trends in the farm sector. Local marketing niches for specialty agricultural products may also exist.

[5] Ranks were based on the sum of earnings from farming in 1981, 1982, 1984, 1985, and 1986, the same years used to determine farming-dependent counties.

The third category examined in this report is the residual group--counties that are neither farming-dependent nor MF. Farm operators in these counties produce in areas where farming provides less than 20 percent of local earnings and the local farming sector does not rank high nationally. The residual group contained 62 percent of all farms and 44 percent of commercial farms in 1990 (table 1).[6]

Both metropolitan (metro) and nonmetropolitan (nonmetro) counties can be in the three groups outlined above.[7] The researchers who determined the 1986 list of farming-dependent counties excluded metropolitan counties because their goal was to develop a broader classification scheme for all nonmetro counties (Hady and Ross, 1990). However, in 9 metro counties, at least 20 percent of earned income came from farming. In this report, the 9 counties were reclassified as farming-dependent. The reclassified counties were

[6] Although broadening the definitions of the two other groups or creating additional groups of counties could reduce these percentages, large numbers of commercial farms would still likely remain in the residual group. For example, an earlier study created four county groups based on counties' history of dependence on farming, yet 25 percent of commercial farms were still in the residual group (Hoppe, 1981a., p. 14).

[7] Generally speaking, a metro area is a county or group of counties containing a population concentration of 50,000 or more (Beale, 1984). Nonmetro counties lie outside metro areas.

Table 1--Distribution of farms, by county group and sales class, 1990

Item	Farming-dependent	Major farming	Residual	U.S. total
		Percent		
Farms	13.2	24.6	62.2	100.0
Sales class of farm:				
Less than $50,000	9.5	21.2	69.3	100.0
$50,000 or more (commercial farms)	22.6	33.0	44.4	100.0
$50,000 to $499,999	23.1	31.8	45.1	100.0
$500,000 or more	17.0	46.9	36.1	100.0

Source: 1990 FCRS, all versions.

fairly small. Each had a population below 25,000, according to the 1990 Census.

Inclusion of metro counties produced some results in the MF group that seem odd when first examined. For example, Los Angeles County, California is classified as an MF county, even though it is heavily urbanized and contained 8.9 million people in 1990. When examined further, this is not as odd as it seems, because the City of Los Angeles encompasses only part of the county, and the county ranks fourth in the Nation in the production of high-value nursery and greenhouse crops (U.S. Dept. Comm., Bur. of Cen., 1990, p. 29).

On the other hand, Lancaster County, Pennsylvania also is metropolitan and would be excluded from studies focusing only on nonmetro counties. Most people, however, think of Lancaster as a farming county; it ranked 12th in the Nation in market value of agricultural products sold in 1987 (U.S. Dept. Comm., Bur. of Cen., 1990, p. 18). In addition, Lancaster County has a concentration of Amish farmers that personify old-style farming to many people. Lancaster County is included in this study as an MF county.

The location of the three groups of counties is mapped in figure 4. Farming-dependent counties are most heavily concentrated in the western portion of the Midwest and the South. (See the Glossary for States in each region.) Many MF counties are also located in the Midwest, particularly in the eastern portion of the region. However, heavy concentrations of MF counties also occur on the West Coast, with smaller concentrations on the East Coast and in the South.

The South and Midwest each make up about 40 percent of all U.S. farms (table 3). Thus, within each county group, either the South or the Midwest predominates. Nearly two-thirds of the farms in farming-dependent counties and more than 40 percent of MF farms are in the Midwest. As a result, the characteristics of midwestern agriculture are reflected in the characteristics of the farming-dependent group and, to a lesser extent, the MF group. Similarly, the characteristics of southern agriculture are reflected in the characteristics of the residual group. Half of the farms in the residual group are in the South, and four-fifths of southern farms are in the residual group.

Table 2--Distribution of gross cash income and value of production, by county group, 1990

Item	Farming-dependent	Major farming	Residual	U.S. total
		Percent		
Gross cash income	20.8	38.5	40.7	100.0
Livestock sales	20.5	34.7	44.7	100.0
Crop sales	19.9	44.1	35.9	100.0
Government payments	34.1	25.3	40.6	100.0
Other farm-related income	19.5	40.2	40.3	100.0
Total value of production	19.8	40.2	40.0	100.0
Crops	19.8	47.2	33.1	100.0
Livestock	19.9	33.9	46.2	100.0

Source: 1990 FCRS, all versions.

The number of counties and share of farms in each of the three groups may change over time. But, the combined shares of commercial farms and production in the farming-dependent and MF groups appear to be fairly stable. The two groups together contained an estimated 56 percent of commercial farms and 60 percent of the value of production in 1990 (tables 1 and 2). These groups contained 62 percent of commercial farms and 60 percent of farm product sales in 1974 (Hoppe, 1981a, p. 14).[8] Between the 1974 and 1990, however, the number of counties, percent of commercial farms, and percent of production decreased substantially in the farming-dependent group and increased substantially in the MF group.

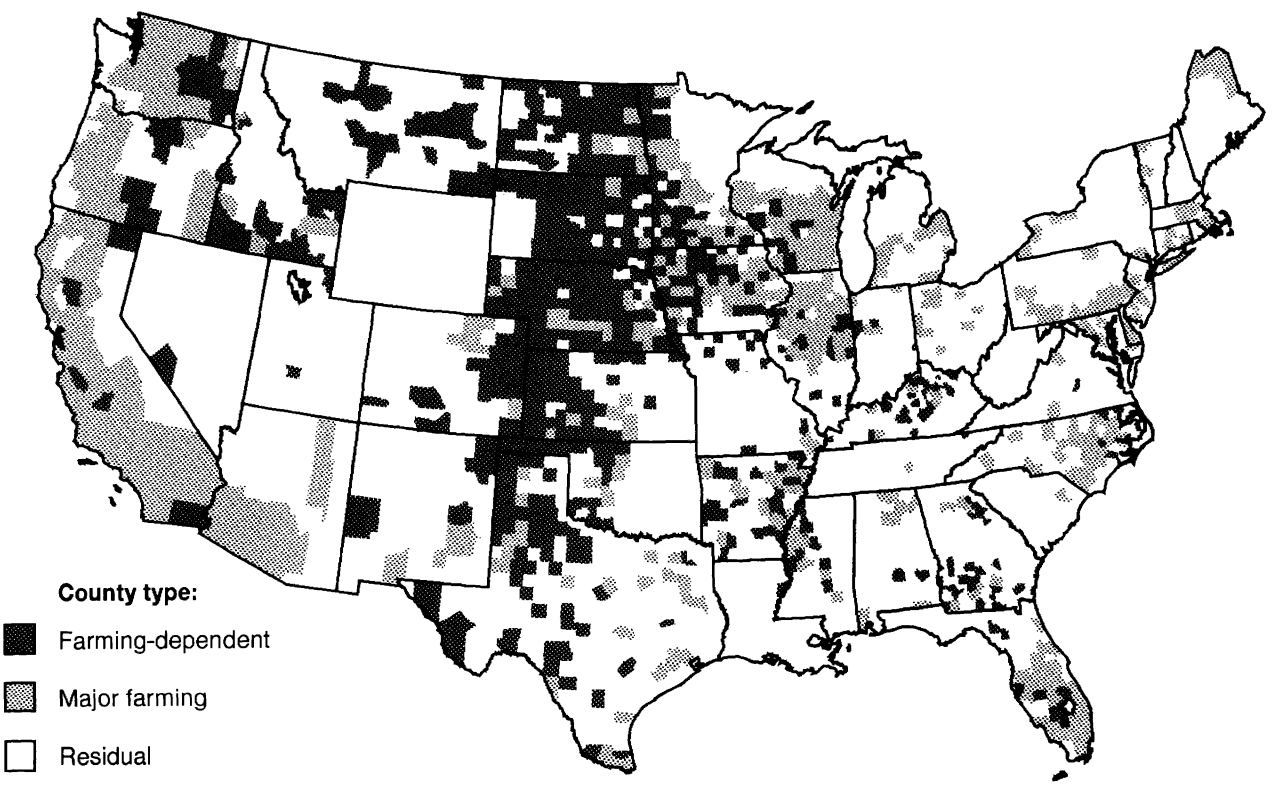
[8] The earlier study used data from the 1974 Census of Agriculture. Commercial farms in the earlier study were defined as farms with sales of $40,000 or more.

Describing the County Groups

In this section, each of the three county groups is described in greater detail. Each county group is discussed separately, beginning with some background information on population concentration, local economic structure, and local economic performance of the group. The background information is limited to characteristics most useful to understanding farm businesses, operator households, and relationships between farming and the local economy. Discussions of farm businesses and operator household characteristics follow. These characteristics vary among the three county types, and the background information discussed above helps explain some of these variations.

For ease in reading, little regional or metro-nonmetro information is included in the tables

Figure 4
Farming areas of the United States



or graphs. Major regional or residential differences are pointed out in the text, however. No metro-nonmetro differences for the farming-dependent counties are discussed, because there are very few metro farming-dependent counties. As a result, the FCRS sample in metro farming-dependent counties is too small to provide reliable metro estimates.

Farming-Dependent Counties

With less than 2 percent of the U.S. population in 1990 (table 4), farming-dependent counties ranked low on various measures related to population concentration. The farming-dependent counties were all nonmetro, except for the nine small, metro counties discussed earlier. Three-quarters of the nonmetro farming-dependent counties were not adjacent to metro areas. Farming-dependent counties had an overwhelmingly rural population.[9] The farming-dependent counties also had a low population density compared with other county groups. Population increased by about 1 percent in the 1979-82 recession and then decreased by 4 percent during the 1982-89 recovery.[10] Over the longer 1979-90 time period, 80 percent of farming-dependent counties lost population.

As one would expect, a large share of income and employment came from farm earnings in

[9] Rural people live in the open country or in places with a population of less than 2,500.

[10] Population changes are based on Bureau of Economic Analysis estimates of population.

Table 3--Distribution of farms, by county group and region, 1990

Item	Farming-dependent	Major farming	Residual	U.S. total
		Number		
Number of farms:				
Total	231,361	430,208	1,090,556	1,752,125
Northeast	0	37,035	70,368	107,403
Midwest	144,855	178,510	372,991	696,355
South	53,140	87,791	559,632	700,563
West	33,366	126,872	87,565	247,804
		Percent		
Distribution of farms by region:				
Total	100.0	100.0	100.0	100.0
Northeast	0	8.6	6.5	6.1
Midwest	62.6	41.5	34.2	39.7
South	23.0	20.4	51.3	40.0
West	14.4	29.5	8.0	14.1
Distribution of farms by county group:				
Total	13.2	24.6	62.2	100.0
Northeast	0	34.5	65.5	100.0
Midwest	20.8	25.6	53.6	100.0
South	7.6	12.5	79.9	100.0
West	13.5	51.2	35.3	100.0

Source: 1990 FCRS, all versions.

the farming-dependent counties (table 5). About 19 percent of total personal income and nearly a third of earned income came from farming. Dependence on farming for income among the farming-dependent counties was greatest in the West, where 23 percent of personal income came from farming. About 40 percent of the employment in farming-dependent counties was farm-related, and most of this employment was in farming and agricultural services. The local nonfarm sector was also important in farming-dependent counties, however, where 60 percent of employment was classified as not farming-related.

Per capita income in farming-dependent counties fell from about 88 percent of national per capita income in 1979 to about 82 percent by 1990, up slightly from in 1989 (table 6). The relatively poor national performance of farming-dependent counties reflects their heavy concentration in the Midwest and West. The ratio of each group's per capita income to national per capita income declined the most in those regions.

Employment dipped modestly in the farming-dependent county group during the 1979-82 recession. For the entire 1979-91 period, employment in the group grew, but by less than 1 percent. Nearly 60 percent of the farming-dependent counties (largely in the Midwest) experienced declining employment the entire 1979-91 period, despite the small gain in employment for the group as a whole.

The farming-dependent county group actually had a lower unemployment rate than the other groups up to the early 1980's (table 6 and fig. 5). However, the unemployment rate in the farming-dependent group continued to rise until 1983, the year after the national recession officially ended. The unemployment rate was slower to fall in the farming-dependent group later in the 1980's.

Table 4--Measures of population concentration, by county group, 1990

Item	Farming-dependent	Major farming	Residual	U.S. total
		Thousand persons		
Total population	4,371	88,520	154,161	247,052
		Number		
Counties	521	434	2,115	3,070
Metro	9	188	515	712
Nonmetro	512	246	1,600	2,358
Adjacent	122	128	666	916
Nonadjacent	390	118	934	1,442
		Percent		
Residence of population:				
Rural	76.7	18.0	27.3	24.8
Urban	23.3	82.0	72.7	75.2
		Persons per sq. mi.		
Population density	8.5	168.1	80.3	83.5

Source: 1990 Census of Population.

Table 5--Sources of income and employment, by county group, 1989

Item[1]	Farming-dependent	Major farming	Residual	U.S. total
		Million dollars		
Total personal income	62,413	1,619,861	2,664,204	4,346,479
		Percent		
Source of income:				
Earnings	63.6	69.1	67.3	67.9
Farming	19.1	1.6	0.8	1.4
Other	44.5	67.5	66.5	66.6
Transfer payments	18.0	13.3	15.3	14.6
Property income	18.4	17.7	17.4	17.5
Total	100.0	100.0	100.0	100.0
		Thousand jobs		
Total employment	1,891	47,435	83,534	132,860
		Percent		
Source of employment:				
Farm-related[2]	39.8	17.3	16.8	17.3
Farming and agricultural services	24.3	2.9	2.5	3.0
Farm self-employment	16.7	1.2	1.6	1.7
Farm wage and salary workers	6.6	1.0	0.4	0.7
Agricultural services	1.0	0.8	0.5	0.6
Agricultural input industries	2.2	0.3	0.3	0.3
Agricultural processing and marketing	4.5	2.3	2.4	2.4
Farm-related wholesale and retail trade	7.8	9.9	9.6	9.7
Indirect agribusiness	0.9	1.8	2.0	1.9
Other	60.2	82.6	83.1	82.6
Mining	0.7	0.5	0.9	0.7
Construction	4.2	5.5	4.8	5.1
Manufacturing	5.1	11.5	10.7	10.9
Transportation, communications, and public utilities	3.9	4.5	4.9	4.7
Wholesale and retail trade	7.2	11.5	11.0	11.1
Finance, insurance, and real estate	4.7	7.6	7.6	7.5
Services	15.7	26.6	26.3	26.3
Government	17.7	14.1	16.1	15.4
Unclassified	1.0	0.8	0.7	0.8
Total	100.0	100.0	100.0	100.0

[1]See the Glossary for definitions of items.
[2]Farm-related employment categories are explained in detail in Majchrowicz and Salsgiver (1993, pp. 12).
Sources: Bureau of Economic Analysis and augmented County Business Patterns.

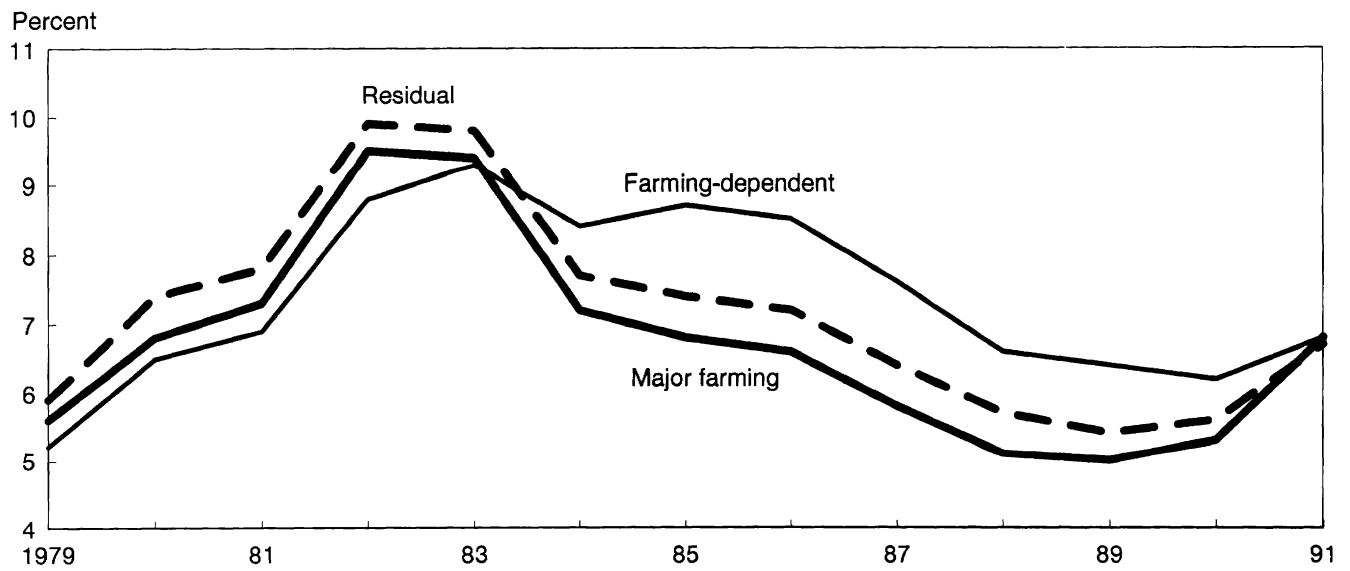
Table 6--Economic characteristics, by county group, 1979-91, selected years

Item	Farming-dependent	Major farming	Residual	U.S. total
		1990 dollars		
Per capita income:				
1979	13,996	16,901	15,594	15,999
1982	13,162	16,845	15,644	16,004
1989	14,988	19,496	18,253	18,638
1990	15,244	19,469	18,326	18,682
		Percent		
Ratio of county group per capita income to the Nation's:				
1979	87.5	105.6	97.5	100.0
1982	82.2	105.3	97.8	100.0
1989	80.4	104.6	97.9	100.0
1990	81.6	104.2	98.1	100.0
		Thousand jobs		
Total employment:				
1979	1,916	33,920	62,516	98,352
1982	1,904	34,796	62,343	99,044
1989	1,930	42,389	72,299	116,619
1990	1,935	42,672	72,547	117,154
1991	1,922	42,284	71,886	116,093
		Percent		
Unemployment rate:				
1979	5.2	5.6	5.9	5.8
1982	8.8	9.5	9.9	9.7
1989	6.4	5.0	5.4	5.3
1990	6.2	5.3	5.6	5.5
1991	6.8	6.8	6.7	6.7

Sources: Bureau of Economic Analysis and Bureau of Labor Statistics.

Figure 5

Unemployment rates by county group, 1979-91



Source: U.S. Dept. Lab., 1992.

Farm Business Characteristics

Farms in the farming-dependent group tended to be large, in terms of sales and acres operated (table 7). Nearly half of the farms in the group were commercial farms. The percentage of commercial farms was particularly high in the Midwest, reaching 60 percent. Estimated farm size in the group averaged 1,083 acres, compared with 588 acres for the Nation. Farm operations in farming-dependent counties rented in the most land per farm.

Another indicator of farm size is the value of land and buildings in farm operations. Average value of land and buildings per farm in the farming-dependent group was about the same as the national average, despite high average acreage of the farms in the group. On a per owned-acre basis, the value of farm businesses in this group was about half the national average. Low population density in the farming-dependent group means fewer competing uses for land to bid prices up.

Low population density may also help explain why the farming-dependent group specialized in cash grain more heavily than the other groups. Cash grain farming is land intensive and more feasible in areas with smaller populations. Specialization in cash grain approached 50 percent in the midwestern portion of the farming-dependent group. However, about as many farms in the group specialized in beef, hogs, or sheep as in cash grains.

The percentages of full owners and part owners were similar in the farming-dependent group. In other words, farm operations were about as likely to use both their own and rented land as to use only their own land. Part-ownership was particularly common in midwestern farming-dependent counties, where half of all operations were partly owned [90%].[11] Farm operations often expand by renting land to avoid debt and tying up capital (Reimund and Gale, 1992, p. 8).

[11] Differences that are statistically significant at the 90-percent level, but not the 95-percent level, are marked by [90%]. For more information, see the data section.

More than 90 percent of farms in the group were sole proprietorships. Corporate farming was not widespread in any group and consisted primarily of closely held, family corporations rather than nonagricultural companies with numerous stockholders.

The tendency towards commercial farms in the farming-dependent counties shows up in the financial characteristics of the group's farm businesses. Estimated average gross cash income per farm was $109,300 in farming-dependent counties, or $40,000 more than the U.S. average (table 8). The relatively large average income from government payments in the farming-dependent county group reflects its specialization in cash grain. The farming-dependent group's net cash farm income and net farm income were both substantially above the national average. Net worth (farm assets less farm debt) in farming-dependent counties, however, was not statistically different from the national average.

The tendency towards commercial farms in the farming-dependent county group also helps explain why the group had the highest percentage of farm businesses with a favorable financial position. To have a favorable financial position, a farm business must have a positive net cash farm income and a debt/equity ratio of no more than 0.40. Most farm businesses that have a less than favorable financial position do so because of negative income, not because of a high debt/asset ratio. Noncommercial farms are more likely to have negative income and to be supported by off-farm income. Larger farm businesses are less likely to experience losses, and thus are more likely to have a favorable financial position.

Farm Operator and Household Characteristics

Examining the characteristics of farm operators and their households gives a more complete picture of farming in farming-dependent counties. Estimated average age of operators in the farming-dependent counties was 51 years, slightly less than the national average for farm operators [90%] (table 9). About 15 percent of operators in the group were less than 35 years old, compared with 12 percent for the United States as a whole [90%]. This is another reflection of the commercial-sized farm businesses in the group; operators of larger farms tend to be younger.

Table 7--Characteristics of farms, by county group, 1990

Item	Farming-dependent	Major farming	Residual	U.S. total
		Number		
Farms	231,361	430,208	1,090,556	1,752,125
		Percent		
Sales class of farm:				
$50,000 or more (commercial farms)	48.7	38.2	20.3	28.4
$20,000 to $49,999	14.9	14.3	11.9	12.9
$10,000 to $19,999	9.1	9.4	13.4	11.9
$9,999 or less	27.3	38.1	54.4	46.8
		Acres per farm		
Acres operated	1,083	425	547	588
Owned	490	199	250	269
Rented in[1]	633	246	316	341
Rented out[2]	40	19 [3]	19	22
		Dollars		
Average value of land and buildings:				
Per farm	284,669	431,974	237,672	291,586
Per acre owned	581	2,175	949	1,083
		Percent		
Type of farm by specialty:				
Cash grain	34.7	19.8	15.7	19.2
Other field crops	12.0	10.1	13.1	12.2
Fruits, tree nuts, vegetables, or nursery or greenhouse	1.6	17.6	4.4	7.3
Beef, hogs, or sheep	35.8	28.2	47.1	41.0
Dairy	5.3	12.0	6.1	7.5
Other livestock	10.6	12.2	13.6	12.9
Tenure:				
Full tenant	14.7	12.1	5.3	8.2
Part owner	44.5	34.4	36.9	37.3
Full owner	40.8	53.4	57.8	54.5
Legal organization:				
Sole proprietorship	91.5	87.5	92.4	91.1
Legal partnership	5.3	8.9	5.5	6.3
Family and other corporation[4]	3.3	3.6	2.0	2.6

[1]Includes land rented *from* others for cash or a share of production, land rented for a per-head fee in Western States, and land used free of charge.
[2]Land rented *to* others for cash or a share of production. Also includes land others are allowed to use free of charge.
[3]Standard error of estimate is greater than 25 percent (34.6 percent).
[4]Also includes a small number of cooperative farms.
Source: 1990 FCRS, all versions.

Compared with farm operators in MF and residual counties, farm operators in farming-dependent counties were most likely to report farming as their major occupation, had the highest average hours worked on the farm, and were the most likely to work 2,000 hours or more per year on the farm. Full-time farming seemed to be especially common in midwestern farming-dependent counties, where 60 percent of operators reported working at least 2,000 hours on their farms. The time commitment necessary to operate large farms limits the number of hours available for operators to work off the farm. At the same time, the declining number of nonfarm jobs in many farming-dependent counties may also limit off-farm employment opportunities.

Table 8--Financial characteristics of farms, by county group, 1990

Item[1]	Farming-dependent	Major farming	Residual	U.S total
		Number		
Farms	231,361	430,208	1,090,556	1,752,125
		Dollars per farm		
Gross cash income	109,316	108,629	45,285	69,293
Livestock sales	51,883	47,269	24,015	33,404
Crop sales	42,670	50,767	16,310	28,251
Government payments	8,157	3,258	2,058	3,158
Other farm-related income	6,606	7,335	2,903	4,480
Less cash expenses	83,695	89,434	39,000	57,285
Equals net cash farm income	25,621	19,195	6,285	12,008
Less:				
Depreciation	8,345	7,869	4,042	5,550
Labor, non-cash benefits	299	517	205	294
Plus:				
Value of inventory change	5,827	5,084	3,138	3,971
Nonmoney income[2]	2,282	4,433	3,105	3,322
Equals net farm income	25,086	20,326	8,281	13,458
Net worth	380,034	507,210	292,129	356,547
		Percent		
Financial position:[3]				
Favorable	57.8	45.0	41.4	44.4
Marginal income	27.3	42.8	47.6	43.7
Marginal solvency	9.2	6.2	4.5	5.6
Vulnerable	5.7	6.1	6.5	6.3

[1]For a detailed definition of items, see Morehart and others (1992).
[2]Value of farm products used or consumed on the farm, plus gross imputed rental value of the farm operator's dwelling.
[3]Financial position: Favorable = positive net cash farm income and debt/equity ratio less than or equal to 0.40. Marginal income = negative net cash farm income and debt/equity ratio less than or equal to 0.40. Marginal solvency = positive net cash income and debt/equity ratio greater than 0.40. Vulnerable = negative net cash farm income and debt/asset ratio greater than 0.40.
Source: 1990 FCRS, all versions.

Fewer farm operators completed college in the farming-dependent county group than in the other county groups [90%], which may help explain the prevalence of full-time farming in farming-dependent counties. The lack of a college degree, combined with limited nonfarm job opportunities in farming-dependent counties, may limit operators' off-farm employment, thus creating full-time farmers.

Total farm operator household income in the farming-dependent county group averaged $40,400, about the same as the average for all U.S. farm operator households (table 10).[12]

[12] Household income in table 10 was defined to be consistent with the Census Bureau's money income concept. See Appendix 2 for more details.

Table 9--Characteristics of farm operators, by county group, 1990

Item	Farming-dependent	Major farming	Residual	U.S. total
		Number		
Farm operators and households	229,811	424,762	1,083,446	1,738,019
		Years		
Average age of operator	51	51	53	52
		Percent		
Age of operator:				
Under 35	15.4	13.5	10.3	11.7
35 to 44	22.3	21.2	20.2	20.7
45 to 54	19.6	22.9	21.6	21.7
55 to 64	22.5	22.8	24.0	23.5
65 or older	20.3	19.6	24.0	22.4
Main occupation of operator:				
Farm/ranch work	71.9	60.8	50.7	56.0
Other	28.1	39.2	49.3	44.0
		Hours per year		
Average amount of farm work by operator	2,035	1,797	1,475	1,628
		Percent		
Hours worked on the farm per year by operator:				
Less than 500 hours	14.5	22.2	21.3	20.6
500 to 999 hours	11.2	14.2	21.3	18.3
1,000 to 1,999 hours	24.0	22.2	28.3	26.3
2,000 hours or more	50.3	41.4	29.0	34.9
Education of operator:				
Less than high school	21.9	20.0	26.2	24.1
High school graduate	43.2	38.7	40.6	40.5
Some college	22.1	22.3	17.0	19.0
College and beyond	12.9	18.9	16.3	16.5

Source: 1990 FCRS, all versions.

Households in farming-dependent counties, however, averaged more income from farming [90%] and less from off-farm sources [90%] than their counterparts located elsewhere. They also were much less likely to have negative farm-related income and more likely to have farm income equal to or greater than off-farm income. The importance of farming to household income in this group is understandable, given the large estimated shares of operators who reported farming as their main occupation or who worked on their farms more than 2,000 hours per year.

Nevertheless, operator households in farming-dependent counties, on average, still relied on off-farm sources for more than 60 percent of their income. Off-farm wages and salaries alone provided 32 percent of total household income. Unearned income (interest, dividends, retirement income, etc.) amounted to 17 percent of total household income. Only 11 percent of operator households in farming-dependent counties reported receiving no off-farm income, and 61 percent of households received less income from their farm business than from off-farm sources.

Table 10--Financial characteristics of farm operator households, by county group, 1990

Item	Farming-dependent	Major farming	Residual	U.S. total
		Number		
Number of farm operator households	229,811	424,762	1,083,446	1,738,019
		Dollars per household		
Household income	40,413	52,624	33,370	39,007
Farm-related income	15,127	10,042	2,066	5,742
Off-farm income[1]	25,286	42,582	31,304	33,265
Wages and salaries	12,942	19,298	17,239	17,174
Interest or dividends	2,483	4,494	2,846	3,201
Other off-farm income[2]	4,269	6,226	5,133	5,286
		Percent of households		
Negative income:				
Farm-related income	38.4	53.9	59.5	55.3
Total household income	9.6	11.2	7.4	8.6
Farm income compared with off-farm income:				
No off-farm income	11.0	10.0	6.8	8.1
Farm income less	60.5	71.3	81.8	76.4
Farm income equal or greater	28.5	18.7	11.4	15.5
		Dollars per household		
Net worth of farm operated[3]	342,215	461,407	278,308	331,506

[1]Includes off-farm business income not shown separately.
[2]Net income from estates and trusts, rental income from nonfarm properties, royalties from mineral leases, retirement/disability income, annuities, alimony, regular contributions from persons not in the household, and any other miscellaneous sources of income.
[3]The operator household may share the net worth of the farm with one or more other households.
Source: 1990 FCRS, all versions.

Regional variation existed in these measures, however. Operator households in midwestern farming-dependent counties were most dependent on farming. About half of the midwestern operator households had no off-farm income, or their farm-related income was more than their off-farm income [90%], and only 30 percent had negative farm-related income [90%].

In farming-dependent counties, estimated average net worth of the farm business operated was $342,200, or about the same as the national average. The operator household may have shared this net worth with other households and may have had assets other than those in the farm business. Nevertheless, the net worth of the farms indicates the general level of resources held by operator households. More than 85 percent of farm operator households' net worth consisted of the farm operation in 1988 (Ahearn and others, 1993, p. 14).

The most remarkable financial characteristic of farm operator households in farming-dependent counties was not the relatively large amount of farming-related income they received. That would be expected, given the high percentage of full-time operators. Likewise, a substantial average net worth for the farm operated would be expected from related data in tables 7 and 8. The most striking financial characteristic was the degree to which farm operator households in farming-dependent counties were integrated into the nonfarm economy through off-farm income. And, this integration existed in areas that lost employment and population during the past decade.

Major Farming (MF) Counties

The MF counties ranked highest of the three groups on measures of population concentration (table 4). About 43 percent of the MF counties were metro, and 52 percent of the nonmetro MF counties were adjacent to a metro area. The MF group was the most urbanized, with 82 percent of its population living in urban places.[13] Population density in the MF counties was also high, at 168 persons per square mile. In part, this reflects the presence of some very densely populated metro counties that raise the density for the group. For example, 20 MF counties had population densities greater than 1,000 persons per square mile.

Nevertheless, even nonmetro MF counties tended to rank high in measures of population concentration, particularly when compared with farming-dependent counties. About 47 percent of the nonmetro MF population was urban, double the 23 percent in farming-dependent counties. Less than 3 percent of the nonmetro MF counties had no urban population, compared with 66 percent of the farming-dependent counties. Population density in the nonmetro MF group was 41 persons per square mile, or about 5 times higher than in farming-dependent counties. Approximately 56 percent of the nonmetro MF counties gained population in the 1979-90 period, compared with 20 percent of the farming-dependent counties.

As one would expect from the way the group was defined, the MF group did not rely heavily on farming for income or employment (table 5). Even nonmetro MF counties received only 6 percent of personal income from farming. Some individual MF counties did have a relatively high percentage of income from farming, however. In 1989, approximately 30 percent of the nonmetro MF counties, largely in the Midwest, received at least 10 percent of their personal income from farming.

One large farm-related employment category was farm-related wholesale and retail trade, which provided about 10 percent of total employment in the MF group. This trade category consists of food stores, clothing stores, and eating and drinking places, as well as the wholesalers who supply them. These establishments are involved in supplying food and fiber products to consumers. Because these trade establishments are oriented toward consumers rather than farm businesses, their share of employment did not vary much among the county groups.

As a group, the MF counties performed well economically during the 1980's (table 6). The group maintained per capita income above the national average throughout the 1980's.

[13] The urban population lives in urbanized areas or in places with a population of 2,500 or more. An urbanized area generally consists of a central city and its surrounding, densely settled suburbs.

Employment grew between 1979 and 1982 only in the MF group. And, for the entire 1979-91 period, employment in MF counties grew 25 percent. The unemployment rate in MF counties was low in the late 1980's compared with unemployment in the other county groups (fig. 5). The unemployment rate turned up at the end of the decade, with the beginning of another recession.

Nonmetro MF counties, however, did not fare as well as metro MF counties. The unemployment rate was generally 1 or 2 percentage points higher in nonmetro than metro MF counties for each year from 1979-91. In addition, per capita income was generally about three-quarters as high in nonmetro as in metro MF counties.

Economic performance in nonmetro MF counties, in some respects, was similar to that in the farming-dependent counties. Per capita income was 1 to 5 percent higher each year in nonmetro MF counties than in farming-dependent counties. Both groups had similar unemployment rates, except during the recession of the early 1980's, when nonmetro MF counties had an unemployment rate 1 or 2 percentage points higher. In one important respect, however, nonmetro MF counties performed better than farming-dependent counties. About 62 percent of nonmetro MF counties had increasing employment from 1979 to 1991, compared with 42 percent of farming-dependent counties.

Farm Business Characteristics

Farms in the MF group were more or less evenly divided between metro and nonmetro counties. About 51 percent were located in metro counties and 49 percent were located in nonmetro counties. About 43 percent of all U.S. metro farm firms were in the MF group.

In some respects, farms in nonmetro MF counties were more like farms in farming-dependent counties than farms in metro MF counties. For example, an estimated 38 percent of all farms in MF counties were of commercial size. This percentage was larger than for the Nation as a whole (28 percent), but smaller than for the farming-dependent county group (49 percent) (table 7). About 45 percent farms in nonmetro MF counties, however, were commercial farms, a figure very close to that for the farming-dependent county group. The corresponding percentage for metro MF counties was much smaller, 31 percent, approximately the same as the percentage for the Nation as a whole.

In other respects, however, farm businesses in metro and nonmetro MF counties had more in common with each other. Regardless of metro or nonmetro location, for example, farms tended to have fewer acres in the MF county group than in the farming-dependent county group.

The highest estimated average value per farm was in the MF county group ($432,000). Farms had a higher average value in metro counties of the group ($588,600) than in nonmetro counties ($267,400). The value per farm in nonmetro MF counties was about the same as in farming-dependent counties ($284,700). On a per-acre basis, however, the value of nonmetro MF county farms was $1,094 per acre, compared with $581 for farms in farming-dependent counties. At least some of the high value of MF county farms reflects the more concentrated population in the MF counties, in both metro and nonmetro areas. Competing uses for the land bid prices up.

Competing uses for land may also encourage operators to specialize in enterprises requiring less land, which would help explain the smaller number of acres per farm firm in the MF county group. MF county farms were more likely to specialize in high-value fruits, tree nuts, vegetables, or nursery or greenhouse products than farms in the other county groups. Specializing in high-value crops allows farms to compete more effectively for land and labor in an urbanized setting (Heimlich and Barnard, 1992). The MF county group was also more likely to specialize in dairy enterprises, which have historically been located near cities to simplify transporting a highly perishable product to market (Heimlich and Barnard, 1992, p. 55).

A relatively large percentage of farms specialized in high-value crops or dairy in both metro MF counties (36 percent) and nonmetro MF counties (23 percent) compared with farming-dependent counties (6.9 percent). Particularly large shares of MF county farms specialize in high-value crops in the West (38

percent) and dairy in the Midwest (20 percent) and Northeast (27 percent).

Not all specialization in these enterprises, however, is a recent response to local population concentrations. The irrigated valleys of the West began to specialize in high-value specialty crops in the late 19th century (Cochrane, 1979, p. 92). Similarly, the MF county group includes a large share of Wisconsin, portions of which have specialized in dairy production since the late 1800's (Cochrane, 1979, p. 91). Although some of the specialization in dairy and high-value crops may not be recent, it still may help farming to continue despite increased urbanization.

Farm businesses in the MF county group shared some financial characteristics with those in the farming-dependent county group. Estimated average gross cash income per farm was high in the MF county group, $108,600, or about the same as in the farming-dependent county group (table 8). Average net cash income and net farm income were of similar magnitudes in the MF and farming-dependent counties. The difference in net worth between the MF and farming-dependent county groups was not statistically significant.

Within the MF county group, average gross cash sales per farm were about the same for metro ($113,900) and nonmetro areas ($103,100). Net farm income was also at similar levels for metro MF farms ($17,900) and nonmetro MF farms ($22,800). Net worth, however, was substantially more for metro farms ($661,500) than for nonmetro farms ($345,000).

The high average gross cash sales per farm firm in metro MF counties may seem surprising, given the small percentage of metro MF farms that were of commercial size. However, metro MF areas had an estimated 10,600 farms with sales of $500,000 or more, which raised average gross sales. (Nonmetro MF counties had a similar number of these high-sales farms.)

Farm Operator and Household Characteristics

Age of farm operator in the MF county group averaged 51 years, the same as in the farming-dependent county group (table 9). With regard to other characteristics, however, operators in MF counties differed from those in farming-dependent counties. Operators in MF counties were less likely to report farming as their major occupation, and they reported fewer hours of work on the farm. Operators in MF counties were also more likely to have finished college than their counterparts in farming-dependent counties.

As before, metro-nonmetro differences occurred within the MF county group. Metro MF operators were less likely to report farming as their major occupation (55 percent) than nonmetro MF operators (67 percent). Similarly, hours worked onfarm averaged 1,630 per metro farm operator, compared with 1,970 for nonmetro farm operators. The nonmetro MF figures were much closer to those for operators in farming-dependent counties than to those for metro MF operators. This may reflect limited off-farm job opportunities in nonmetro MF areas compared with metro MF areas. As noted earlier, nonmetro MF counties have consistently had a higher unemployment rate than metro MF counties.

The difference in total household income between the MF and farming-dependent groups was not statistically significant (table 10). However, the MF county group received more income from off-farm sources [90%] and less income from farm-related sources [90%] than the farming-dependent county group. As a result, operator households depended less on farming in the MF county group than in the farming-dependent county group. Only 19 percent of total household income was farming-related in MF counties, compared with 37 percent in farming-dependent counties. About 71 percent of MF operator households had less farm income than off-farm income, compared with 61 percent for operator households in farming-dependent counties.

Farm operator households in metro MF counties, however, had higher household income and depended more on off-farm sources of income than their counterparts in nonmetro MF counties. Total household income averaged an estimated $64,500 for metro households, compared with $40,300 for nonmetro households [90%]. About 90 percent of farm operator household income came from off-farm sources in metro MF counties, much more than the corresponding 65 percent in nonmetro MF counties. And,

three-fourths of metro MF households received more income from off-farm sources than from their farm business, compared with only two-thirds of nonmetro MF households.

Average household income and the percent of income from farming were similar in nonmetro MF counties and farming-dependent counties. These similarities may reflect more-limited nonfarm job opportunities and the prevalence of full-time farming in both nonmetro MF and farming-dependent counties.

Residual Counties

The counties in the residual group contained more than 60 percent of the population of the country. Thus, the population concentration, economic structure, and economic performance data mirror those for the Nation. The residual county group had an urban population and population density between those of the farming-dependent and MF counties (table 4). Economic structure in residual counties, measured by sources of income and employment, was similar to that in MF counties (table 5). Economic performance in residual counties, measured by per capita income, employment growth, and the unemployment rate, was similar to that in the MF counties' and stronger than that in farming-dependent counties (table 6, fig. 5).

Three-quarters of the residual group was made up of nonmetro counties, however, and the characteristics of the metro and nonmetro counties in the group were different. Only 37 percent of the population was urban in nonmetro residual counties, compared with 85 percent in metro residual counties. Unemployment rates ran 1 to 2 percentage points higher in nonmetro than metro residual counties, depending on the year. Between 1979 and 1990, the ratio of nonmetro to metro per capita income in the group gradually fell from 76 to 72 percent. On the other hand, neither metro nor nonmetro residual counties depended heavily on farming for personal income. Only 3 percent of nonmetro residual county income came from farming, compared with less than 1 percent in metro residual counties.

In some respects, nonmetro residual counties were similar to farming-dependent and nonmetro MF counties. Nonmetro residual counties had population density (25 persons per square mile) intermediate to farming-dependent counties (9 per square mile) and nonmetro MF counties (41 per square mile). From year to year, per capita income in nonmetro residual counties was slightly less than in either farming-dependent or nonmetro MF counties. Over the years, nonmetro residual counties had a slightly higher unemployment rate than farming-dependent or nonmetro MF counties.[14] Similar percentages of nonmetro residual and nonmetro MF counties lost jobs or population. However, substantially smaller percentages of nonmetro residual counties lost jobs or population than did farming-dependent counties.

The residual group contained about 57 percent of metro farms in the Nation. Only 27 percent of the group's farms were located in metro areas, however. Metro-nonmetro differences in farm business, operator, and operator household characteristics were less important for the residual county group than for the MF county group.

Farm Business Characteristics

Farms in residual areas tended to be small in terms of sales, with more than half having sales less than $10,000 (table 7). Only 20 percent of farm businesses in the group were of commercial size. The percentage was slightly less in metro areas (17 percent) than in nonmetro areas (22 percent). The percentage of commercial farms in residual counties was lower in the South (13 percent) than in other regions.

Estimated acreage operated per farm business averaged 547 acres in residual counties, slightly more than in MF counties [90%], but substantially smaller than in farming-dependent counties. Metro farms in the residual group averaged 297 acres, while nonmetro farms averaged 639 acres. Average farm size was particularly large in the West, exceeding 3,000 acres.

Value of land and buildings per farm business was $237,700 in the residual county group,

[14] An exception occurred in the early 1980's, when the farming-dependent counties had a lower unemployment rate than nonmetro MF and nonmetro residual counties.

less than the national average. The value was $299,100 in metro residual areas, about the same as the national average. Value per acre in metro residual counties was double the national average, however, reflecting the greater population density in metro residual areas. In nonmetro residual counties, value per farm was $215,200, somewhat less than in nonmetro MF counties ($267,400) or farming-dependent counties ($284,700) [90%]. The highest average values per farm for the residual counties were $405,300 in the Northeast [90%] and $368,700 in the West.

Nearly two-thirds of farms in residual counties specialized in livestock, compared with about half the farms in the other county groups. Specialization in livestock was about the same in nonmetro residual counties (67 percent) as in metro residual counties (65 percent). Some regional variation existed, however. Northeastern residual counties had a particularly large specialization in dairy farms, approximately 23 percent.

An estimated 58 percent of the farm operations in residual counties were full owners that did not rent any land. This percentage was similar to those for the Nation as a whole (53 percent) and MF counties (55 percent), but substantially larger than that for farming-dependent counties (41 percent). The relatively large percentage of full owners in residual counties compared with farming-dependent counties resulted from the heavy concentration of noncommercial farm businesses in residual counties. Noncommercial farms tend to own all the land they operate (Ahearn and others, 1993, p. 19). The percent of operations that are fully owned did not vary much by region or metro-nonmetro location in the residual group.

Compared with the other county groups and the national average, the residual county group averaged much lower gross cash income, net cash farm income, and net farm income per farm operation (table 8). Farm income in this group was so low that nonmonetary income provided 37 percent of net farm income [90%].[15] Average income figures were low in residual counties regardless of metro-nonmetro location. Net farm income was at similar levels in metro ($9,300) and nonmetro ($7,900) residual counties.

Estimated net worth per farm business was $292,100 in residual counties, substantially lower than the national average and in the farming-dependent and MF counties. There was some variation by region and metro-nonmetro residence within the residual county group, similar to differences in the value of land and buildings per farm business discussed earlier. That is, net worth was higher in metro areas, the Northeast [90%], and the West.

About 48 percent of farms in residual counties fell in the marginal income category, slightly more than the 44-percent average for the Nation [90%]. Marginal income farms have a debt/asset ratio less than or equal to 0.40 and negative net cash farm income. A large share of farm operations in residual counties were not commercial farms, and noncommercial farms are more likely to have negative farm income and to supplement the farm with off-farm income.

Farm Operator and Household Characteristics

The estimated average age of farm operators in residual counties was 53, 2 years older than in the other county groups (table 9). The higher average age of operators in residual counties reflects the tendency towards older operators in southern residual counties. About 54 percent of farm operators were at least 55 years old in the residual counties of the South, compared with between 41 and 43 percent in the other regions.

The high percentage of older operators in residual counties may also help explain the large share of operators in the group who did not complete high school [90%]. The likelihood of having completed high school is less for older operators (Bellamy, 1992).

Part-time farming appeared to predominate in residual counties. Nearly half of the farm operators in residual counties reported a major occupation other than farming, and only 29 percent worked on their farms 2,000 hours or more per year. Similar percentages worked at least 2,000 hours on their farms in metro areas

[15] Nonmonetary income is the value of farm products used or consumed on the farm, plus the gross imputed rental of the farm operator's dwelling when it is part of the farm operation.

(26 percent) and nonmetro areas (30 percent). Among the four regions, the percentage of operators who worked at least 2,000 hours on their farms was lowest in the South (22 percent).

Heavy specialization in beef, hogs, or sheep (table 7) helps explain the large amount of part-time farming in the residual group. The beef, hogs, or sheep category is made up largely of beef farms, and beef farms often have relatively flexible labor requirements (Holcomb, 1982, pp. 6, 22-23) that fit well with an off-farm job. Flexible labor requirements may also make beef operations attractive to older operators phasing out of farming. About 45 percent of farm operators in residual counties who worked fewer than 2,000 onfarm hours per year had beef farms. In contrast, only 30 percent of farm operators in residual counties who worked at least 2,000 onfarm hours ran beef farms.

On average, most farm operator household income in residual counties came from off-farm sources (table 10). Wages and salaries were particularly important. In the residual county group, about half of operator household income came from wages and salaries, compared with about a third in the other county groups. Within the residual county group, percent of income from wages and salaries did not vary much by region or by metro-nonmetro residence.

Dependence on off-farm income was greater in the residual county group than in the other county groups. About 82 percent of households in the residual county group received more income from off-farm sources than from farm-related sources, a higher percentage than in the other county groups. Even in nonmetro residual counties, 80 percent of households received more income from off-farm sources. About 88 percent of residual county households in the South received more income from off-farm sources than from farming. The corresponding figures for the other regions ranged from 72 to 76 percent.

Average farm operator household income was lower in the residual county group than in the two other county groups. This difference resulted, in part, from low farm-related income. Estimated farm-related income averaged only $2,100 in residual counties, compared with $15,100 in farming-dependent counties and $10,000 in MF counties. Off-farm income appeared lower in the residual group than in the MF group, but this difference was not statistically significant.

The importance of farm-related income is even clearer when nonmetro residual counties are compared with farming-dependent and nonmetro MF counties. Total household income averaged $32,100 in nonmetro residual counties, substantially less than the $40,000 averages in the farming-dependent and nonmetro MF counties (table 11). Average off-farm income was at approximately the same level in the three groups, but average farm-related income was at least $11,400 lower in nonmetro residual counties.

Table 11--Farm operator household income, by source, for selected county types, 1990

Type of county	Farm-related income	Off-farm income	Total operator household income
	Dollars per household		
Farming-dependent	15,127	25,286	40,413
Nonmetro MF	14,007	26,303	40,309
Nonmetro residual	2,598	29,498	32,096

Source: 1990 FCRS, all versions.

Implications

The information presented above has four major implications for farm operator households and their communities:

- Farm operator households have an interest in the nonfarm economy. Regardless of county group, operator households currently benefit from off-farm income.

- Farm-related economic development strategies may be most relevant in farming-dependent counties. For other areas, the effects of the local economy on farming may be more important than the effects of farming on the local economy.

- Farm commodity programs have limited potential to affect farm households, because most operator household income comes from off-farm sources.

- Strengthening local nonfarm economies through development programs is a possible alternative to commodity programs.

Each of these points is discussed in greater detail below.

Farm Operator Households and the Nonfarm Economy

Regardless of county group, operator households--on average--depend heavily on off-farm income, particularly wages and salaries. Receiving both farm and off-farm income allows operator households to live better than they could otherwise. Off-farm income can serve to buffer farm operator households from adverse economic conditions in the farm sector. For example, a USDA study found that farmers with small farms weathered the farm financial crisis better than those with large operations, because small-farm operators depended less on farm income (Hanson and Jinkins, 1991). Similarly, a household's farm income may prove crucial when the local economy deteriorates. Finally, some households may be able to experience a small-farm lifestyle only through part-time farming. In short, operator households benefit from receiving off-farm income.

Depending on off-farm income also means that operator households have an interest in the nonfarm economy. The health of the local economy, nonfarm job growth, and the level of nonfarm wages are obviously important to many operator households. For older operators, the status of retirement programs and the returns on investments may also be important.

Off-farm income and the nonfarm economy are not panaceas for farm operator households' economic well-being, however. Although relying on off-farm income normally buffers farm operator households from economic problems in the farm sector, there may be times when operators are simultaneously subject to adverse conditions in both the farm and nonfarm economies (Hoppe, 1992, p. 71). An example is when the farm financial crisis in the early 1980's occurred at the same time that farming-dependent, nonmetro MF, and nonmetro residual counties were experiencing rapidly rising unemployment rates. At such times, an operator household may lose off-farm jobs at the same time that its farm business experiences financial difficulties.

Operator households' involvement in off-farm work may also require some adjustments by the local economy and local governments. When operator household members work off the farm, they may require more work-related services. For example, child care may become necessary, and roads must be passable throughout the winter. Such services may be difficult to provide in less-populated areas, such as farming-dependent counties. The small population base may make such services difficult to fund. On the other hand, satisfying these needs can open up opportunities for entrepreneurs supplying child care, elder care, house cleaning, house and yard maintenance, car care, and other services.

Farm-Related Economic Development

The farm sector in the farming-dependent county group is large enough compared with other sources of income and employment to have an important and obvious local economic impact. Farming-related economic development programs are probably most relevant in these areas. In particular, attracting more food processing industries to process locally produced agricultural products has

been suggested as an economic development strategy for farm States (Barkema and others, 1990), and this approach might be relevant in some farming-dependent counties.

In some cases, however, locating processing plants in farming-dependent counties may not be economically rational for the processing firm. For example, most flour mills are now built near population centers rather than wheat production areas (Harwood and others, 1989, p. 11-12). Decisions about where to locate mills depend largely on shipping costs of wheat versus flour. Starting in the early 1960's, rail rates for shipping flour began to rise faster than rates for shipping wheat. As a result, milling companies have tended to build flour mills nearer population centers.

Where farming is a relatively small portion of the local economy--as in many MF counties--the effects of local economic conditions on farming may be more important than the effects of farming and related businesses on the local economy. As an example of how local economic conditions can affect farming, a study of the metro Northeast (Heimlich and Barnard, 1992) found three distinct types of farm businesses. A small group of farms practiced intensive agriculture on fewer acres to adapt to the urban environment. Traditional farms practiced extensive agriculture; they experienced increased costs and urban pressures without a compensating increase in sales. Recreational farms supported farming with off-farm income.

When making decisions about zoning, land-use restrictions, and pollution controls, government officials ideally should consider the adjustments farming undergoes as urbanization occurs. Simultaneously adjusting to urbanization and to changes in government regulations can be difficult for farm operators (Patrico, 1993).

Farm Commodity Programs

Concern over operator households' economic well-being has traditionally been addressed through farm commodity programs. But, relying on commodity programs can have only limited success when most farm operator household income comes from off-farm sources. In addition, not all households' farm businesses produce commodities covered by the programs. These programs have the most potential for households that depend heavily on farm income and specialize in commodities covered by the programs, namely feed grains, wheat, milk, cotton, and rice (Stam and others, 1991, p. 37). The potential effects of the programs have also decreased in recent years as provisions were incorporated to reduce the shares of corn, wheat, rice, and upland cotton actually produced under the programs (Westcott, 1993, pp. 1-2).

Similarly, commodity programs are more likely to affect local economies in farming-dependent counties specializing in covered commodities. They are less likely to have a direct effect on MF and residual counties specializing in livestock other than dairy. Programs' effects on feed prices, however, could indirectly affect farms in such areas.

Strengthening Local Economies

As an alternative to commodity programs, strengthening local economies helps members of farm operator households find better off-farm jobs. Off-farm employment may not be a viable option for farm operators themselves, if they spend long hours on their farms, as in midwestern farming-dependent counties. Nevertheless, stronger local economies could help other household members find better jobs, if they are not involved heavily with the farm.

Efforts to strengthen local economies could include a variety of rural economic development measures. Recently discussed examples of such measures include using telecommunications to overcome geographic isolation (Rowley and Porterfield) and establishing locally administered revolving loan funds to help businesses (Stinson and Lubov). As another example, some rural development specialists have suggested attracting the elderly and their retirement income (Hoppe, 1991, p. 1).

Devising effective economic development programs was difficult during in the 1980's, however, due to structural problems in nonmetro areas. Nonmetro counties--regardless of type--generally did not fare as well during the 1980's as metro counties, whether performance is measured in terms of income, employment, or unemployment

statistics (Deavers, 1991; Henry and others, 1986; Parker, 1991). The causes of the relatively poor performance in nonmetro counties appear to be long-term structural employment decline in natural resource industries, especially agriculture, and increasing integration of the U.S. and world economies. These changes left many nonmetro areas behind, particularly remote ones. In addition, nonmetro areas were less able than metro areas to capture the better-paying jobs in the service sector.

In some cases, increasing operator households' farm-related income may actually be more feasible than rural development programs. As an example, consider the residual counties. Average operator household income in this group was relatively low, in part a result of low farm income on small farms. The Extension Service could help part-time operators in such areas make more effective use of their farm resources, particularly where the nonfarm economy is consistently weak. Developing and maintaining extension programs for part-time operators may be difficult, however, as the number of Extension Service employees continues declining in most States (Edwards and Petritz, 1993).

Nevertheless, the United States has had successful rural development programs in the past. From the Land Ordinance of 1785 until the beginning of the 20th Century, rural development stressed settling the continent by removing land from the public domain and placing it in private hands (Lapping, 1992). This effort was successful; the Nation was settled. Later, government programs successfully addressed a variety of rural problems by providing:

> Surfaced roads, a postal system, electricity, telephones, water and sewer systems, low-cost credit, improved housing, recreational resources, and many other facilities that enhance the quality of life...(Rasmussen, 1985, p. 9).

These efforts generally focused on improving the infrastructure. The remaining rural problems are more economic in nature: lagging incomes and employment.

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Appendix 1: Recession and Recovery

The annual data used in this report represent full years. However, the turning points of business cycles--troughs and peaks--are specific months of specific years.[1] Matching annual data to business cycles can be challenging.

When historic data are examined in this report, 1979, 1982, and 1989 are emphasized. The whole period from 1979 to 1989 represents a complete business cycle, from peak to peak, ignoring the short recovery from July 1980 to July 1981. (See text table below.) Technically speaking, peaks occurred in 1980 and 1990 rather than in 1979 and 1989. However, 1979 and 1989 were the last *complete* years before peaks.

Trough	*Peak*
March 1975	January 1980
July 1980	July 1981
November 1982	July 1990

(Source: U.S. Dept. Comm., Bur. Econ. Anal., 1992.)

[1] Business cycles are:
...the more or less regular pattern of expansion (recovery) and contraction (recession) in economic activity around the path of trend growth. At a cyclical peak, economic activity is high relative to trend, and at a cyclical trough, the low point in economic activity is reached (Dornbusch and Fischer, 1984, p. 9).

Two short recessions and a short recovery occurred in the early 1980's. Because it was the most recent trough year, however, 1982 was selected for examination.

Appendix 2: Defining Operator Household Income

The derivation of farm operator household income (Ahearn and others, 1993, p. 4) is summarized below:

Household income =
farm-related income + off-farm income,

where:

Farm-related income =
(net cash farm income[1] of farm operated - depreciation) X
(percent received by household)
+ cash received by household for renting out farmland
+ net income received from another farm by household
+ wages and salaries paid by farm business to operator and other household members

and

Off-farm income =
Off-farm wages and salaries received by household
+ net income of off-farm businesses received by household
+ interest and dividends received by household
+ all other income received by household.

A household may not receive all the income from the farm it operates. Although there is only one operator household per surveyed farm, more than one household may work a farm and share its net income. Therefore, net cash farm income, less depreciation, is multiplied by the percent of income actually received by the operator household in the derivation of household income described above. On average, there were 1.1 households per farm in the United States in 1990.

Operator household income is defined to be consistent with the income concept used by the Census Bureau in its Decennial Census and Current Population Survey. The Census definition of income includes any income received as cash; in-kind receipts are excluded. The Census definition departs from a strictly cash concept by deducting depreciation as an expense for farm operators and other self-employed people (U.S. Dept. Comm., Bur. of Cen., 1992, pp. C2-C3). Defining household income to be consistent with Census Bureau practices allows comparing the economic well-being of farm operator households using FCRS data and all U.S. households using data from the Census Bureau.

Glossary

Agricultural input industries. Provide inputs necessary for farming production. Include the following industries: chemical and fertilizer mining, agricultural chemicals, farm machinery and equipment, farm supply and machinery (wholesale trade), and commodity contract brokers and dealers.

Agricultural processing and marketing. Industries that prepare agricultural products after they leave the farm. Includes the following: meat products; dairy products; canned, frozen, and preserved fruits and vegetables; grain mill products; bakery products; sugar and confectionery products; fats and oils products; beverages; miscellaneous food preparations and kindred products; tobacco products; apparel and textiles; leather products; farm-related raw materials (wholesale trade); and warehousing.

Business cycle. The regular pattern of expansion (recovery) and contraction (recession) in economic activity around the path of the trend in economic growth. At a peak, economic activity is high compared with the trend, and at a trough, a low point in economic activity is reached.

[1] Excludes the income the farm business receives from renting out farmland. Wages and salaries paid to the operator and other household members are deducted as an expense when calculating net cash farm income.

Earned income (earnings). Income from work. The work can be performed for others (a wage or salary job) or for oneself (self-employment).

Farm-related wholesale and retail trade. Establishments involved in the sale of processed agricultural goods to consumers. Includes food stores, clothing stores, and eating and drinking places, plus the wholesalers who supply them.

Farm specialization type. Type of crop or livestock commodity that generates at least 50 percent of the farm's total value of sales of agricultural products.

Financial position. The measure of a farm operation's overall financial performance. A farm has a favorable financial position if it has positive net cash farm income and a debt/equity ratio less than or equal to 0.40. Farms with a marginal income financial position have negative net cash farm income and a debt/equity ratio less than or equal to 0.40. Farms with a marginal solvency position have positive net cash income but a debt/equity ratio greater than 0.40. Vulnerable farms have negative net cash farm income and a debt/asset ratio greater than 0.40.

Gross cash income. Cash received by farm operations from sales of agricultural products, services rendered, or government payments for program participation. Excludes value of products given to landlords for share rents and government payments received by landlords.

Indirect agribusiness. A varied group of industries with relatively minor linkages to farming. Includes the following industries: prefabricated metal buildings, pumps and pumping equipment, miscellaneous repair shops, miscellaneous textile products, containers, paper products and pulpwood products, chemicals, primary and fabricated metal products, food products machinery, miscellaneous manufacturing, and printing and publishing.

Major occupation. That occupation where the operator spent the majority of his or her work time.

Metropolitan (metro) areas. Defined by the U.S. Office of Management and Budget as geographic areas with a large population nucleus, plus adjacent communities that are economically and socially integrated with that nucleus. Generally speaking, a metro area is a county or group of counties containing a population concentration of 50,000 or more. Metro areas as of 1983 are used in this report.

Net cash farm income. Gross cash income less cash expenses, including interest payments but excluding repayments of principle. Net cash farm income represents cash generated by a farm in a given year.

Net farm income. Indicates profit or loss from current production. Net farm income is gross cash income (adjusted for inventory change and nonmonetary income) less total operating expenses (including interest payments and depreciation).

Net worth (of the farm business). The value of all assets, excluding crops under Commodity Credit Corporation (CCC) loan, less total farm debt, excluding CCC loan debt. Includes the shares of all operators, partners, and corporate shareholders.

Nonmetropolitan (nonmetro) areas. Not metropolitan. (See metropolitan areas.)

Peak. See business cycle.

Personal income. Total income individuals receive in the form of wages and salaries, other labor income, self-employment income, property income, and transfer payments, less personal contributions for social insurance.

Property income. Dividends, interest, and rent. (See personal income.)

Region. Census regions are used in this report.

> **Northeast:** Maine, New Hampshire, Vermont, Massachusetts, Connecticut, Rhode Island, New York, New Jersey, and Pennsylvania.
>
> **Midwest:** Ohio, Indiana, Michigan, Illinois, Wisconsin, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, and Kansas.

South: Delaware, Maryland, the District of Columbia, Virginia, West Virginia, Kentucky, Tennessee, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Arkansas, Louisiana, Oklahoma, and Texas.

West: Montana, Idaho, Wyoming, Colorado, Utah, Nevada, New Mexico, Arizona, Washington, Oregon, and California.

Alaska and Hawaii are excluded from the study.

Rural population. Residents of the open countryside or places with a population less than 2,500. A county may have both rural and urban populations. (See urban population.)

Tenancy. The extent of ownership of operated acreage. Under full-ownership, none of the acreage is rented. Under part-ownership, acreage is both owned and rented. Under full-tenancy, all the acreage is rented. (See personal income.)

Transfer payments (transfers). Income for which no work was performed in the current period. Most transfer payments come from the government. Social Security is the largest single transfer payment program. (See personal income.)

Trough. See business cycle.

Unearned income. Income from transfer payments and property. Unearned income comes from sources other than work.

Urban population. Residents of urbanized areas or places with a population of 2,500 or more. An urbanized area generally consists of a central city and its surrounding, densely settled suburbs. (See rural population.)

U.S. Department of Agriculture
Economic Research Service

SUMMARY OF REPORT AIB-690

New USDA Report Details Status of U.S. Farm Sector

March 1994

Contact: Judith Z. Kalbacher 202-219-0527

Structural and Financial Characteristics of U.S. Farms, 1990: 15th Annual Family Farm Report to Congress, introduces a new reporting format that will provide annual data on the major structural and financial characteristics of the farm sector as portrayed by the U.S. Department of Agriculture's Farm Costs and Returns Survey (FCRS). Annual farm structural data are not available from any other national data source. Estimates from the 1990 survey, the base year for the new data series, indicate that about 1.8 million farms operated 1 billion acres of land in the contiguous United States during the year. The average acreage operated was 588 acres per reporting farm and gross farm sales averaged $63,200.

The variables presented in this report were selected to provide a comprehensive overview of the organization, resource base, and financial situation of the Nation's farm sector. These variables fall into three basic categories: farm structure, land base and use, and farm financial and economic well-being. Selected data on farm operator households are also included to provide a sense of the importance of farming to operator households.

Farm structure variables measure the number and distribution of farms by several classifications, such as acreage, value of production, form of organization, type of farm, and operator characteristics. The FCRS data provide the following snapshots of the U.S. farm sector:

- Farm size measures show a concentration of farms in the smaller acreage and sales classes. Farms of less than 500 acres account for slightly more than 80 percent of farms surveyed, but slightly less than 20 percent of the farmland. About 60 percent of farms reported gross farm sales of less than $20,000 in 1990; these small farms account for only 4 percent of farm sales.
- The individual owner business organization and the full ownership land tenure arrangement make up the largest proportion of farms. Average acreage and average sales data indicate that farms operated by individuals and full owners were smaller than farms operated under other forms of business organization and tenure arrangements.
- Beef-hog-sheep operations are the most common production specialty, followed by cash grain operations. The two most common farm types operated the largest shares of farmland and, along with dairy operations, produced the bulk of gross farm sales.
- Measured by average acreage operated, operators with less than a high school education and operators primarily employed in occupations other than farming generally had the smallest farms. No significant differences were found in average acreage operated by age group.

To Order This Report...

The information presented here is excerpted from ***Structural and Financial Characteristics of U.S. Farms, 1990: 15th Annual Family Farm Report to Congress,*** AIB-690, by Judith Z. Kalbacher, Susan E. Bentley, and Donn A. Reimund. The cost is $12.00.

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